THE MARINE RECORD.

DEVOTED TO COMMERCE, ENGINEERING AND SCIENCE.

ESTABLISHED 1878.

VOL. XV. CLEVELAND, OHIO, JANUARY 28, 1892. NO. 5.

TREASURY DECISIONS RELATING TO VESSELS.

Steamers chartered by the United States must be inspected under the provisions of Title LII of the Revised Statutes.

TREASURY DEPARTMENT, November 21, 1891.

SIR: In reply to your letter of the 14th instant, you are informed that section 4400 of the Revised Statutes especially exempts public vessels of the United States from the provisions of Title LII of the Statutes, "Regulations of Steam Vessels," but this exemption would not cover the case of a chartered steam vessel in the employment of the United States. (See Department decision No. 8010, January 28, 1887.)

If it is a fact, as your letter would seem to indicate, that the United States Fish Commission steamers engage in passenger traffic from port to port, such traffic is, in the opinion of this Department, a perversion from the legitimate duties of such vessels, as contemplated by law, unless the persons carried are employes of the Fish Commission and directly connected with its work.

To Collector of Customs, Sandusky, Ohio.

Vessels—Marine documents to be produced to revenue officer on demand.

TREASURY DEPARTMENT, November 7, 1891.

SIR: This department is in receipt of your letters, dated the 22d ultimo and 6th inst, respectively, relative to the schooner Veranda, reported by Captain Slamm, of the revenue steamer Dexter, to have been found without marine documents, in violation of section 4336, Revised Statutes.

The evidence shows that demand was made by the revenue officer, and that the papers could not be found, the master being on shore. He states that the crew on board did not know where the papers had been placed, and avers that there was no intention to violate the law. The Veranda is a small coasting steamer, and you report that the master and owners have usually been prompt in complying with the regulations.

While there may be doubt, as you suggest, whether under strict construction, there was a technical violation of the section, the Department is of opinion that facilities for the inspection of the papers by the revenue officers, on demand, should be afforded in such cases.

You will accept a penalty of * * * as sufficient for the offense.

Please report the final disposition of the matter.

To Collector of Customs, Hartford, Conn.

Lights on barges in tow.

TREASURY DEPARTMENT, November 13, 1891.

SIR: This Department is in receipt of your letter, without date requesting information as to the lights which barges are required to carry when towed, "if they have masts, and also if they have no masts."

In some cases it has been the practice for barges to carry two "vertical" white lights on the flagstaff, visible for about 5 miles around the horizon. The Board of Supervising Inspectors of steam vessels, however, prescribed the following amendment in February, 1885, to section 20, General Rule 3, adopted by the Board, viz:

All barges in tow of steamers, except upon the Red River of the North, and rivers whose waters flow into the Gulf of Mexico, between sunset and sunrise, shall have their signal lights, as required by law, placed in a suitable manner upon the bows of the outside forward boats, namely, a green light on the starboard bow of the starboard barge and a red light upon the port bow of the port barge, when two or more barges are being towed side by side. Said lights shall not be less than 10 feet above the water.

The United States district court at New York has recently held, however, that the decision in the case of the Eleanora of Chief Justice Waite that the "supervising inspectors have no power to prescribe rules which would have the force of law for the government of sailing vessels" covers the case of barges, because it excludes all general powers beyond that specifically given to the Board in respect to steam vessels under section 4412 Revised Statutes The court stated that the regulation of lights is not within the subjects committed to the regulation of the Board, and also remarked as follows:

I greatly doubt moreover, whether section 4500 authorizes penalty for non-observance of the regulation of the supervising inspectors. The penalty is prescribed for a violation of "any provision of this title;" that is, a violation of some obligation created by that title. This construction is confirmed by the fact that many sections of this title provide specific, and, for the most part much less severe penalties for the violation of the regulations which the inspectors are authorized to make. (See sections 4413, 4454, 4492)

The United States circuit judge agreed with the decision of the district judge in his conclusion that the amended rule of the Board above mentioned is not a regulation to be observed by steam vessels in passing each other, and is beyond the competent authority of the Board of inspectors to establish.

For further particulars you are referred to the decisions above cited.

The act of Congress approved August 19, 1890, but not yet in force, provides that vessels being towed shall carry—

On the starboard side a green light so constructed as to show an unbroken light over an arc of the horizon of ten points of the compass, so fixed as to thrown the light from right ahead to two points abaft the beam on the port side, and of such a character as to be visible at a distance of at least 2 miles.

It requires that the "said green and red side lights shall be fitted with inboard screens projecting at least 3 feet forward from the light, so as to prevent these lights from being seen across the bow."

The Department suggests that to secure uniformity the regulations proposed by the act cited be observed by barges in tow.

This suggestion is in accordance with a recommendation made by the Bureau of Navigation in 1888.

Respectfully yours, O. L. SPAULDING, Acting Secretary.

LEGISLATION IN THE INTERESTS OF TH LAKE MARINE.

A joint resolution has been introduced to promote th improvement of the waterway from the head of Lake Superior by way of the Welland and St. Lawrence Canals and River, to the sea, authorizing the president to appoint three commissioners to negotiate with the Dominion Government, as to terms and conditions of the deep water improvements. To provide for the making of a survey, and estimate for a canal from the St. Crois River to Lake Superior. To establish telegraphic communication between Alpena, Mich., and Middle Island, and Thunder Bay Island life saving stations, Providing for a survey and estimate of expense of the construction of a ship canal from Lake Erie to Lake Ontario, and a ship canal from Lake Ontario to the Hudson River. Making an appropriation for the improvement of the St. Joseph Harbor, Mich., and the channel leading up to Benton Harbor, and for extending the north pier of said harbor twelve hundred feet, and the south pier five hundred feet in accordance with report of Chief of Engineers. To establish a life saving station at or near Saugatuck, Mich., at such point as the superintendent of the life saving station may recommend. Authorizing the secretary of war to cause a survey to be made for a ship canal connecting the waters of Lake Erie and the Ohio River, from, at, or near Conneaut O., to a point near the city of Pittsburg. To create a port of entry and delivery at the city of Ashland in the County of Ashland, in the State of Wisconsin, and the appointment of a Collector of Customs, with such other assistance as may be required. Granting pensions to certain officers and enlisted men of the Life Saving Service, and to their widows and minor children. To require persons who make their residence on boats on the interior waters of the United States, to obtain license. For ascertaining the feasibility and probable cost of constructing a ship canal from the Great Lakes to the navigable waters of the Hudson River. Authorizing tests of the utility of Ward's patent wreck indicating buoy.

EXCELSIOR MARINE BENEVOLENT ASSOCIATION.

The Grand Lodge, Excelsior Marine Benevolent Association, assembled in convention at Cleveland, O., finished its annual business Saturday and adjourned *sine die*, after arranging to meet at Port Huron next year. Proposed changes in the constitution were further considered, as well as a reform movement in the navigation of boats. In connection with the latter subject a committee consisting of Captain W. S. Mack, George McCullagh, James Leick, Daniel M. Pierce, Alex R. Sinclair, and George Tebo, were appointed a committee to recommend rules for the safer naviagtion of narrow channels, and they reported the following, which was accepted:

Your committee beg leave to report the following recommendations, with the suggestion that each president of the subordinate lodges read them to new members, or cause them to be read directly after the charge has been given to the candidate by the vice president.

That in going through all narrow channels or shoal waters, when boats are meeting head to head, the descending boat should have the right of way; that the ascending boat should on all occasions check, and if necessary stop, especially if signaled to do so by the usual check whistle of the descending boat. We deem the Lime Kiln Crossing, Grosse Pointe, St. Clair canal, Sailors Encampment, foot of Sugar Island, Neebish cut, Lake George Flats (especially Collision Bend,) Squirrel Island and Topsail Island, to be among the very dangerous passing points.

In the case of passing boats going the same way, especially tows, steamers should check to as slow a speed as possible to pass, and the boat or boats being passed should also check, so as to allow the faster boat to pass them as quickly as is practicable in consistence with safety.

"We would further recommend that the grand president in his next annual address recommend such needed changes and new rules as would benefit us in navigating the craft in our charge on the Great Lakes and rivers. These suggestions might come to him in his observations during the season of navigation, or might be imparted to him by any master who is a member of this order."

THE MARINE RECORD FOR ONE YEAR

—AND—

Beeson's Inland Marine Guide	$2.50
Law of Bills of Lading	6.50
Patterson's Nautical Dictionary	6.00
Drawing and Rough Sketching for Engineers by James Donaldson	4.00
Scott's Coast Pilot (new edition)	3,00
Simple Elements of Navigation	3.50
"Wrinkles" in Practical Navigation	6.00
Practical Seamanship	8.00

United States and Canadian charts and any publication on Navigation, Shipbuilding, Engineering, etc., etc., will be supplied with THE MARINE RECORD at proportionately low rates. Address THE MARINE RECORD, Smith & Swainson, Publishers, 148 Superior St., Cleveland, Ohio

CLEVELAND VESSEL OWNERS' ASSOCIATION.

ORGANIZED IN 1880.

(Membership 1890.)

One hundred and thirty-eight steamers, and
One hundred and thirty-two sail and barge, } Aggregating 245,707 tons.

Maintains shipping offices at Cleveland, Ashtabula Harbor, Fairport and Toledo. Regulates wages, protects crews, and takes cognizance of all matters in the interest of the members and of the lake commerce generally.

OFFICERS.

H. M. HANNA, ... President
M. A. BRADLEY, ... Vice President
GEORGE P. McKAY, ... Secretary and Treasurer
H. D. GOULDER, ... Counsel

MANAGERS OR ADVISORY BOARD.

H. M. Hanna, R. C. Winslow, H. P. Lillibridge, P. G. Minch, M. A. Bradley, W. D. Reese, George P. McKay, J. H. Palmer, Thomas Wilson, W. C. Richardson, J. W. Moore, James Corrigan.

EXECUTIVE COMMITTEE.

H. M Hanna, M. A. Bradley, Thomas Wilson, J. W. Moore, George P. McKay, James Corrigan, B. L. Pennington.

SHIPPING MASTERS.

A. R. Rumsey, 98 dock, Cleveland; Fred Bennet, Assistant, Wm. Rennick, Ashtabula Harbor; Andrew Biemel, Fairport; John O'Connor, 205 Madison Street, Toledo.

THE MARINE RECORD.—OFFICIAL PAPER.

NEWS AROUND THE LAKES.

CLEVELAND, O.

John Reining, Jr., ship supply dealer of Buffalo, spent Tuesday in the city and left for Toledo in the evening.

Mr. Fred Ballin, manager of the Detroit Boat Works, visited the city on business a few days ago, and secured a number of orders for his firm.

Mr. George H. Ely will wait on the river and harbor committee at Washington on Saturday in the interests of the deep waterway convention held last month in Detroit.

The city has just contracted with the Thomson Houston Electric Co. to fit out the swing bridges with electric motors in lieu of the steam power now in use. The application and economy of electric power in this connection has been fully demonstrated.

Capt. Duncan Buie, who resigned his command of the Wilson Line steamer Sitka at the close of navigation, has allowed himself to be re-appointed to his old command again. We wish him much success and congratulate him on his again taking charge under the Wilson Line house flag.

There are but few changes to report in the masters and engineers of the several prominent Lines, the Wilson Line are not making a single change in their fleet, all positions being filled by the same men as last year, the Menominee Line makes a change in two masters and the Mutual and Orient Lines are already filled with last season's officers.

The M. E. B. A. endorsed resolutions at their last meeting calling upon all maritime associations to favor the passage of a bill now before Congress, for the establishment of a home for aged and infirm sea and lake faring men. It is expected that all organized marine bodies will lend their assistance to bring about the enactment of so humane a measure.

The Chase Machine Co. have several orders for new pumps, considerable marine and stationary repair work and are working on a stock of the Chase automatic fog whistle machines especially adapted for the coast and ocean trade, a new engine has been built and put in place for driving the machinery at the works. A crew of skilled workmen have been sent to Buffalo this week to carry out orders for boiler and pipe covering.

Major William Ludlow, corps of Engineers U. S. A. engineer for the 9th. and 11th. Lighthouse Districts, and Commander Nicoll Ludlow, U. S N. inspector of the 9th. District, were in the city last Saturday on department business. Both officers visited the yards of the Cleveland Ship Building Co., where the new lighthouse tender Amaranth, is being fitted. The Dahlia is also at their dock undergoing an extensive overhauling in repairs and new work.

Capt. Alex. McDougall, general manager of the American Steel Barge Co., was in the city Wednesday and left again in the evening. While here he inspected the two monitors building at the yards of the Cleveland Ship Building Co., and recognized them as being a new departure in the shipbuilding world. The captain looks well and is as hearty and energetic as ever, he had just heard that the Wetmore had closed a splendid charter of $1.50 per ton for coal on the Pacific to run between the Sound and San Francisco, eight keels are now laid for whalebacks at West Superior.

Work at the yards of the Cleveland Ship Building Co. is moving at a rapid gait, Nos. 16 and 17, the two new monitor model freight steamers are being put together with a crew of over five hundred men and work will move on the same lines until the vessels are off the stocks. No. 16 is now two-thirds plated and spar deck partly laid, No. 17 is nearly all in frame. To a stranger these immense steel hulls with the large tumble home in their upper works look strangely like the whaleback type, though when Capt. McDougall inspected them on Wednesday in company with Mr. Henry D. Coffinberry it was not learned that any direct similarity existed in the entire or complete construction of these singular freight carriers, the Cleveland Ship Building Co. have not taken out patents on the monitor type of building, yet, the company are the first in the field, as it were, short top gallant forecastles for working and stowing the anchors as well as protecting the windlasses will probably be placed on the monitors, the frames abreast of the deck forward and aft where the houses are to be built run up to a line at the head, and have not the tumble home given to the rest of the frames. It is now a foregone conclusion that these monitor type freight steamers will prove enormous carriers on a light draft, and they will vie closely with the whalebacks record. In addition to the new tonnage there are at the shipyard the lighthouse tenders Dahlia and Amaranth, the former undergoing large repairs and a partial rebuild and the latter being fitted out, the steamer Onoko is also at the dock for repairs and the Frontenac is in dry dock for bottom repairs, twenty-four plates being taken out of her.

CHICAGO, ILLS.

Special to The Marine Record.

H. W. Cook, of the firm of Campbell & Cook, vessel owners, Michigan City, was in Chicago Tuesday on business.

The barge May Richards, light, arrived here Sunday afternoon from Milwaukee in tow of the Chicago Towing Co.'s tug Waubun.

P. H. Fleming & Co., vessel agents, chartered the barge Baltic Tuesday for corn to Buffalo at 4¾ cents per bushel for storage and delivery.

The schooner C. C. Trowbridge has been sold by George B. Carpenter & Co., shipchandlers, to Capt. Charles Gunderson; consideration $1,000.

The steamer Servia was chartered last week by Messrs. Keith & Carr, vessel agents, for wheat to Buffalo at 5 cents per bushel for storage and delivery.

James Prindiville returned home Tuesday morning from a journey East, where he had been on business on behalf of his father, Capt. John Prindiville, the well-known vessel agent of this port.

The steamer Fountain City, Capt. Griffin, with merchandise from Milwaukee for St. Joseph, ran into this port Monday evening. She had been laying off St. Joseph two days and nights, but could not enter that port on account of ice.

We are pleased to know that Captain Otto Westerholm, owner of the schooner Kate Hinchman, is recovering nicely from a severe attack of grippe, which he has been suffering from since New Years. His schooner is for sale in our advertising columns.

The Marine Engineers Beneficial Association No. 68 Chicago, held their third annual ball at the north side Turner Hall Thursday evening last. The grand march was led by Engineer C. E. Stacey and wife. A very nice party was in attendance and all had a very enjoyable time, excellent dancing was indulged in until early morn, to the very fine music supplied by Nevans & Fishers orchestra.

Engineer Thomas Dowd, of M. E. B. A. No. 4, Chicago; National Secretary J. H. Harris, of M. E. B. A. No. 68, Chicago; Engineer John L. Muzzy, of M. E. B. A. No. 44, Manistee; Engineer Alfred Green, of M. E. B. A., Muskegon and Chipman of M. E. B. A., Milwaukee, left Chicago Saturday for Washington to attend the M. E. B. A. annual national convention this week, as delegates from their respective lodges.

The steamer City of Rome is receiving a new spar deck and some new deck beams where necessary, new promenade deck, new bridge, new hatch coamings, new stringers and a new solid rail, her rail formerly was in sections. She is being re-calked from the light water mark up, her four masts have been taken out and she will in future carry two pole spars only. She will also receive a new steam capstan and probably be lighted by electricity. The work is being done by Charles Blair, ship carpenter, under the superintendence of Captain R. H. Long.

Captain Thomas Teed, died January 16th on his 73 birthday at Union Grove, Racine County, Wis., where he went from Chicago to reside about four years ago. He arrived in Chicago from England in 1852. He owned and sailed the fore and aft schooner Carrie Woodford soon after his arrival here, he also sailed the small schooner Jenny Lind and the tug S. C. Harrison and Bob Teed were partly owned by the deceased. He had been suffering from paralysis for two years and on January 1st was attacked with grippe which put an end to his sufferings. He was well known and much respected in Chicago. His funeral took place at Rose Hill Cemetary Wednesday morning January 20th. He leaves a widow and two sons both of whom were formerly tugmen with their brother Robert who died recently.

Corporation Counsel Miller Wednesday received an opinion from the Supreme court which is of the utmost importance to the city, inasmuch as it establishes the right of the city to compel tug owners to pay a license. It is in the case of William Harmon vs. City of Chicago. William Harmon owned twelve tugs and was assessed a license fee of $25 for each. He paid the $350 under protest and brought suit to recover the amount. Harmon claimed that the licensing of tug boats was a violation of the provisions of the constitution in regard to interstate commerce. He denied the right of the city of Chicago to tax tug boats a license fee, declaring that Congress alone had jurisdiction in the matter. The case was taken to the Supreme court and on the first hearing Harmon won, the court declaring that the city law was invalid. But on a rehearing petitioned for by the city the validity of the ordinance was established. The opinion which is a somewhat lengthy one, is based on the ground, that, as the city had expended money on the river, it had the right to exact toll, which it did in the form of a license tax.

WILLIAMS.

BUFFALO, N. Y.

Supervising Inspector McMaster is in Washington attending the annual meeting of the Supervising Inspectors.

The Hand & Johnson Tugboat Co., recently organized, now controls all the tugs of the old Hand & Johnson line. James Ash is president, and Capt. John Johnson general manager. All the owners of stock in the tugs are stockholders of the company. A new tug is being built for the line.

G. E. Lee made a transfer in real estate for floating property this week. The steamer St. Louis with consorts Champion and Potomac, were turned over for $60,000, which amount was covered by the late owners H. W. Watson and Peter Wex, taken over property on Elk and Seneca Streets.

Major E. H. Buffner, Corps of Engineers, U. S. A., has now taken over the duties at this port. Major Amos Stickney is transferred to Cincinnati. The concrete work carried on at the breakwater during the past year has been the most important work on the station, and it would be well if more concrete was used in the construction of piers and at the lake ports.

Junius S. Smith, Merchants Exchange weighmaster, in his annual report for 1891, gives the total receipts of grain and flax seed by lake as 135, 315, 510 bushels. The total receipts at Buffalo from 1872 to 1891 (inclusive) amount to 1,415,707,761 bushels of grain of all kinds, including flax seed, and at the rate of shortage at the time of the adoption of the present system in 1872, as compared with the present rate of 1891, the saving to grain carriers would amount on the total receipts to 1,105,667 bushels, and fully demonstrates the value and efficiency of the methods adopted. Mr. Smith reports that all elevator scales, both receiving and delivering, have been carefully tested with standard weights—some of them repeatedly—and checks kept on the work at and from other ports. Errors and disrepancies amounting to several thousand bushels have been corrected, and the probabilities of error or defect reduced to a very low point; and yet he says: "There are many owners or masters of craft receiving the benefit of the care, labor and expense involved in this work, who do not employ us because they can get the mere tallying done at a much lower price. They are willing to take advantage of my work without any cost to themselves.

ASHTABULA, O.

Special to The Marine Record.

William Daly, general manager of the Menominee docks, is ill of la grippe.

H. P. Sherwin is taking an inventory of the stock of the Harbor Ship Chandlery Co.

Capt. Downs has been under the weather for some time with the grippe, but is now better.

The hope of obtaining a life saving station at this port has been revived by a letter which Mayor Moore lately received from Capt. Dobbins, who advises that the matter be placed before Superintendent S. I. Kimball at Washington, and the danger of vessels entering the harbor and the consequent need of a life saving station strongly urged.

James P. Devney has sold the shipyard here to his sons, John P. and Henry, who will hereafter personally conduct the business. Both men are practical shipbuilders, having been taught by their father, who is considered one of the best on the lakes. It is not known whether Mr. Devney will engage in business at some other place, or retire finally from active life. His increasing years and the success which has attended his labors would justify the latter conclusion; but on the other hand there are good reasons for believing that Mr. Devney's career of usefulness will not terminate with the sale of his shipyard.

LAKE CARRIERS' ASSOCIATION.

To consider and take action upon all general questions relating to the Navigation and carrying business of the Great Lakes and the waters tributary thereto, with the intent to improve the character of the service rendered to the public, to protect the common interests of Lake Carriers and promote their general welfare.

OFFICERS FOR 1891.

S. D. Caldwell, President	Buffalo, N. Y.
Frank J. Firth, Vice President	Erie, Pa.
Thomas Wilson, Vice President	Cleveland, O.
P. P. Miller, Vice President	Buffalo, N. Y.
Ira H. Owen, Vice President	Chicago, Ills.
Charles H. Keep, Secretary	Buffalo, N. Y.
James Carey Evans, Treasurer	Chicago, Ills.

BOARD OF MANAGERS.

James Ash	Buffalo, N. Y.
W. Bullard, Gen. Mng'r. Union Steamboat Co	Buffalo, N. Y.
S. D. Caldwell, Gen. Mng'r. Western Transit Co.	Buffalo, N. Y.
E. T. Evans, Gen. Mng'r. Lake Superior Transit Co.	Buffalo, N. Y.
John Gordon, Gen. Mng'r. Northern S. S. Co	Buffalo, N. Y.
W. P. Henry, Gen. Mng'r. Lehigh Valley Trans. Co	Buffalo, N. Y.
P. P. Miller	Buffalo, N. Y.
Frank J. Firth, President Anchor Line	Erie, Pa.
M. A. Bradley	Cleveland, O.
H. M. Hanna	Cleveland, O.
Thomas Wilson, Manager Wilson's Line	Cleveland, O.
Harvey H. Brown	Cleveland, O.
A. W. Colton	Toledo, O.
W. Livingstone, Jr., Mng'r. Michigan Nav. Co	Detroit, Mich.
James Davidson	Bay City, Mich.
W. M. Egan	Chicago, Ills.
R. P. Fitzgerald	Milwaukee, Wis.
David Vance	Milwaukee, Wis.
Alex. McDougall	Duluth, Minn.
F. W. Baldwin	Ogdensburg, N. Y.

THE MARINE RECORD.—OFFICIAL PAPER.

DETROIT, MICH.

Special to The Marine Record.

Capt. M. W. Humphrey, one of the most energetic vessel masters out of this port and a generally well liked member of the fraternity has been elected 2nd vice-president of the E. M. B. A. for the ensuing term.

A Bill has been introduced in Congress authorizing an official test of the "Ward's patent wreck indicating buoy," a full description of which has been given in these columns. Mr. Ward is a foreman in the pattern making department of the Frontier Iron Works and his ingenious invention is well worthy of a national recognition and should be fitted on all first class tonnage both naval and mercantile.

A committee was here from Cleveland on Wednesday to confer with Gen. O. M. Poe relative to the improvements in the "Soo" River advocated at the annual meeting of the Cleveland Vessel Owners' Association. Gen. Poe will go to Washington Thursday and will be present at the meeting of the commerce committee of the Senate and the river and harbor committee of the House of Representatives, which will be held in the committee rooms of river and harbor committee Saturday at 10:30 a. m., for the purpose of granting a hearing to the delegates from the Detroit deep waterways.

As noted in these columns of recent date Capt. S. B. Grummond has purchased the passenger steamer De Pere. It is now learned that this fine steamer will be placed on the Shore Line during the season of 1892. The De Pere has handsome cabins and large freight capacity on a light draft, which will enable her to make all shore landings on the now well-known route. The De Pere together with the Flora and Atlantic will form a tri-weekly line between Cleveland, Toledo and Detroit for Mackinaw and all intermediate ports. The liberal patronage given to this route in the past will no doubt be largely increased by the addition of another regular line boat.

Captain F. B. Hackett, of Amherstburg has purchased the large Canadian tug Wales and will station her at the mouth of Detroit River, Lake Erie, for the season of 1892. Her general dimensions are 150 feet in length, 24 feet beam and 12 feet hold, 325 tons register, two 22 by 22 square high pressure engines, two boilers, 8 by 15 feet. The Wales with a 400 ton lighter and the tug International are to be fitted out with an entire wrecking plant second to none on fresh water, steam pumps, divers, hawsers, etc., will be on board so that prompt assistance may be rendered any vessel in the locality. Captain Hackett says that moderate charges and strict attention to business is the watchword with him and whoever he works for once he calculates to make a friend of.

The dedication of the new rooms of the E. M. B. A. was appropriately carried out on Wednesday evening, January 20th, Rev. L. Morgan Wood, officiating. A more suitably eloquent address never emanated from the lips of even a "sky pilot." All of the members were sincerely pleased at the singularly fitting strain in which their reverend friend embodied his dedicatory speech, as it came rippling along like a gentle fair wind after a calm, or the lighting up of Boreas after a hard whirl, solid chunks of practical philosophy for every-day use mingled with the well turned phrases and acceptable advice tendered by the moral director, whose lecture closed with a unanimous vote of thanks and a hearty handshake all round. The new rooms are elegantly fitted and furnished, and friends outside of the order took no little interest in this positively elevating part of the work, well knowing, that the surroundings exercise a most telling influence under all circumstances. When everything was in ship shape order the floating population went into a committee of the whole and like the party on their way to Donnybrook "had thousands around them themselves all alone," (according to the rules of the order.) THE MARINE RECORD man was floating around E ½ S. quietly looking for nothing until he found it, and in this way he learned that the recording secretary was to be "flabbergasted," so serious a proceeding merited inquiry, when it transpired that during the session, John C. Shaw, ex-financial and recording secretary was brought before the tribunal and with the usual pomp and ceremony displayed when the lodge is in session, was presented with a beautiful and costly silver set as a mark of the esteem in which he is held by the members of the Association and in appreciation of the valuable services which he has rendered the organization. It was then known that "flabellation" was the point, but Capt. John C. with the pluck engendered by his mariners training and bolstered up with the legal acumen which he has since taken aboard, recovered himself, gave her the bells and started ahead in a neatly worded and appropriate response, afterwards rounding to under plain sail with the hearty congratulations of all hands. The lodge was organized April 2nd, 1891, and has experienced a rapid growth, having already a membership of 122 with the prospect of a large increase this season. Capt. George McCullagh, the president, is very energetic in promoting the interests of the Association and to his efforts is largely due the present healthy condition of the lodge. The officers for 1892 are: President, George McCullagh; 1st vice-president, A. E. Stewart; 2nd vice-president, Moses W. Humphrey; treasurer, John Edwards; financial and recording secretary, Walter E. Campbell; chaplain, S. A. Whipple; marshal, Lewis Elliott; warden, Charles H. Bassett; sentinel, George Manning.

KINGSTON, ONT.

Special to the Marine Record.

Already the sailors who have votes in the city, ase flocking in to cast their ballots on the 28th. for a representative to the House of Commons.

The Kingston foundry have contracted to compound the engine of the steamer Water Lily, of Picton, and already the new cylinders are in the lathes.

Mr. John McEwen, for many years proprietor of a machine shop here, will leave on Feb. 1st. for Collingwood, to take charge of the foundry and machine works in that town. We wish him success.

The Montreal Transportation Co., have commenced buying timber for a new 60,000 bushel Lake Barge which will be built at their shipyard here. Work will be commenced at once, so as to have the new vessel ready for the opening of navigation.

The divers of the Donnelly Wrecking Co. repaired the main supply water pipe of the Royal Military College this week, and report having a very cold time under water. As soon as the ice gets a little stronger they will lay the suction pipe of the water works for the city.

A great many changes in crews of steam vessels are already chronicled. Mr. S. Donnelly will be chief engineer of the steamer D. R. Vanallen next season; James Hickey, late of the steamer Hero, will serve in a like capacity on the steamer North King; Mr. William Hazlett takes Mr. Hickey's position on the Hero.

Capt. C. Rees and Mr. Ira Folger have left for Portland, Ore. to examine the waters in that vicinity with the object of putting on a passenger steamer if they think trade warrants the investment. Both of these gentlemen are well posted in the passenger business, having had long experience on the St. Lawrence river.

The final test of the new engine of the steamer Corsican took place here this week before Mr. Thompson, the R. & Ont. N. Co.'s chief engineer who was well satisfied with the trial. The steamer's paddle wheels had to be released from six inches of ice and it was something unusual to see a boat of that class working full speed at the dock with solid ice for miles around.

Work is to be commenced at once on the steamer St. Lawrence on the new Dry Dock. The braces which hold up the guards are to be removed and replaced by angle beams, and the guards also supported by rods from posts set on the covering board. The wooden braces used to check the steamer's speed by dragging in the water. Mr. William Derry is superintending the work.

The Dry Dock contractors have received the sum of $32,000 from the Government on account of work done by them on the Kingston Dry Dock. At the commencement of proceedings against them, the Messrs Connolly suspended work on the dock, but as the dock needed a few minor details before it was completed, the Hon. Mr. Smith arranged with the contractors that they should go on with the work until such time as it was in a position to dock a vessel, the condition being that all work executed from that time to the completion of the contract, should be paid for at once by the Government. This payment is aside and apart altogether from the amount belonging to Messrs. Connolly, which the Government retains, pending the decision of the claim against the contractors which will be tried in the Exchequer Court. MAGNET.

TOLEDO O.

Special to the Marine Record.

John Reining Jr., of Buffalo, visited here Wednesday on business. He is a well-known vessel supply man, and holds a large marine patronage.

The yachting organization known as the Ohio Yacht Club, is not working just in the unison which is desirable. George W. Bills is the commodore, and makes one of the best the club ever had, but the friends of the ex-commodore George H. Ketcham, consider that the club's interests, at least, the financial end of it, would be better subserved by the re-election of Ketcham. It is to be hoped that the dissatisfaction may be straightened out, and all efforts turned to the building up of the yachting interests of the port.

E. M. B. A. No. 4.

The Cleveland Lodge No. 4, E. M. B. A. held their annual ball last Thursday night, and a more enjoyable hearty assemblage never met together under one roof. About 300 couples attended and all were bent on having a happy time. The hall and banquet room were tastefully decorated with bunting and flags, and Japanese lanterns and singing birds in brass cages added to the bright appearance of the hall. The pennants of the different lodges, which are as follows: Buffalo No. 1, Port Huron No. 2, Chicago No. 3, Cleveland No. 4, Bay City No. 5, Milwaukee No. 6 and Detroit No. 7, were hung about the hall. There were twenty-six numbers on the dancing program and shortly before intermission was reached the guests started for the banquet room. The arrangements were complete, and the mariners having the work in charge were complimented for their success in handling such a large crowd in so able a manner. The banquet was an elaborate affair. Among the guests were Capt. and Mrs. Alexander Clark, of Buffalo; Mr. J. W. Prindiville, of Chicago; Mr. J. T. Rose, of Duluth; Mr. Joseph Boland, of Buffalo; Capts. Lyman Hunt, F. D. Welcome and E. F. Thorpe, of Buffalo; Capts. A. R. St. Clair, John H. Ivers, of Port Huron; Capt. James Hogan, George Tebeau, of Chicago; Capt. D. M. Pierce, of Bay City; Capt. James Leisk, of Milwaukee; and Capt. George McCullagh, of Detroit; Capt. Connors, of Toledo; Mr. and Mrs. John Corrigan, Mr. and Mrs. John Warner, Mr. John Smith, Mr. and Mrs. Joseph R. Oldham, Mr. and Mrs. Robert Wallace, Mr. Hayes, Col. A. T. Van Tassel, Mr. C. E. Grover, Mr. and Mrs. F. W. Jackson, Mr. and Mrs. Fred Saal, Mr. and Mrs. C. F. Palmer, Mr. and Mrs. N. Boylan, Mr. S. Hohn, Miss Tillie Hohn, Mr. John Quinn, Mr. Louis Hausheer, Mr. James McGrath, Miss Frankie McGrath, Miss Grace Gregory, Capt. and Mrs. J. W. Moore, Mrs. William Becker, Mr. Charles Olmstead, Mrs. Olmstead, Capt. and Mrs. George De Wolf, Mr. Philip Minch, Miss Anna Minch, Miss Hattie Minch, Mr. Charles Lamarche, Capt. John H. Bartow, Mr. and Mrs. J. T. Hutchinson, Mr. J. T. Fitzpatrick, Mr. W. E. Heffron, Capts. E. K. Hutchinson, Sam Gould, Plietz, Radcliffe, Kohn, Capt. and Mrs C. E. Benham and Capt. John Drackett, of Cleveland, besides a long list of friends, as the phrase goes to numerous to mention. The gentlemen having charge of the entertaiment were:

Committee of Arrangements—Captains William S. Mack, Richard Neville, Joseph Doville, W. A. Collier, Clint G. Ennes, J. N. Lundy, J. B. Lowe.

Reception Committee—Captains J. B. Hall, George B. Mallory, John W. Moore, George P. McKay, C. E. Benham, James Stone, P. G. Minch, J. W. Morgan, John Mitchell, Ed Morton, Ed Kelley, A. J. Greenley, S. N. Murphy, Thomas Wilford, R. J. Cowley, Albert Myers, C. C. Allen, J. H. Wysoon, A. M. Graves, E. T. Rattray, John McNeff.

Decoration Committee—Captains W. E. Morris, F. G. Boothman, Charles Benham, R. W. Kerr, J. N. Smith, George B. Brock, J. D. Bates, Charles H. Hinsles.

Supper Committee—Captains Edward Mooney, Thomas Jones, Stephen Lyons, H. W. Stone, W. H. McNelley, William H. Cowin.

Floor Directors—Captains William S. Mack, Clint G. Ennes.

Floor Managers—Ira B. Mansfield, C. L. Hutchinson, D. H. Mallory, R. J. Lyons, Frank C. Rae, F. A. Graves, D. P. Wright, Frank A. Fick, William Cumming, Robert McDowell, L. H. Weeks, Bernard Nelson, J. H. Stover, Thomas D. Gibson, Charles H. Wallace.

Sergeant-at-Arms—Captains H. Cummings, Frank H. Brown.

Captain Milo D. Estes writes the following from Charlotte: "James W. Estes, late engineer of the steamer Ontario, received a letter from W. E. Volz, manager of the South Brooklyn Steam Engine Works, Brooklyn, N. Y., stating that the steamer Protection, (late Ontario) left Brooklyn for Cuba December 29th, and has not been reported since, and we do not have much hopes of her turning up again, as we fear she met the storm of January 5th off the coast."

The past week has been intensely cold, bridging the Straits of Mackinac from shore to shore, and teams are now crossing on the ice. The ice is solid for miles on Lake Huron. The lower portion of Lake Erie is also well packed with ice and more making.

SHORT HAND METHOD TO FIND THE MAGNETIC FORCES OF A VESSEL.

BY JOHN MAURICE.

When the magnetic forces of a vessel are known the deviation for all courses can easily be found by graphical methods without swinging the ship. The question therefore is, how to find these forces without any cumbersome mathematical process. The solution of the problem without mathematics is necessarily confined to certain limits or points of the compass for which the deviation must be known. Such points are the quadrantal points. If the deviations for the four quadrantal points are known the magnetic forces are known or can easily be found by the following rule:

1. Add together the deviation for all four points, the deviation for NW and SE with signs reversed, and take $\frac{3}{4}$ of the algebraic sum in degrees and divide it by 100. The result is in linear measure the value of the magnetic force from induced magnetism called G.

2. Add together the deviation for NE and SW the latter with sign reversed and call the result X.

3. Add together the deviation for SE and NW the latter with sign reversed, and call the result Y.

4. Add Y. to X. and divide the degrees by 161 plus 100 G. The result is the value of the component part of permanent magnetism acting in the direction of the ships keel, and is generally called B.

5. Add Y. with sign reversed to X. and divide the degrees by 161 plus 100 G. as before, the result is the value of the component part of permanent magnetism acting athwart-ships and is generally called C. Example.—Give the deviation as follows: NE 24° 10′, SW 10° 30′, SE 6° 0′, NW 19° 30′.

The sign minus indicates West deviation.

Solution:

24° 10′	
−10 30	
− 6 0	
19 30	
43 40	
−16 30	
27° 10′	
27.2 × ¾ =	
20.4 = 100 G	
∴ G = 0. 204	

24° 10′		6° 0′	
10 30		19 30	
X = 34° 40′		Y = 25° 30′	
X + Y =	60° 10′		
X − Y =	9 10		
60.2 / 161 + 20	= 0.33	=	B
9.2 / 181	= 0.05	=	C

The force G is constant; being little changed by lapse of time, therefore its value once ascertained may be used at future occasions.

With G known, only the deviations for two adjacent cardinal points are necessary to find B and C after the following rule:

1. Divide the deviation for E. or W., the latter with sign reversed, by 57. The result is B.

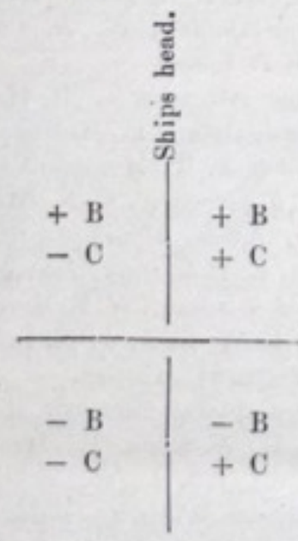
2. Multiply the deviation for N. or S. the latter with sign reversed, by 1 minus G, and divide the product by 57. The result is C.

Example:—Given the deviation for E. 19°, for North 4° 40′ and G = 0.18.

Solution:—

$$B = \frac{19}{57} = 0.33 \qquad C = \frac{4.7 \times 0.82}{57} = 0.07$$

The signs of B, and C, indicate in what quarter of the vessel the ship's polar force is located in reference to the compass as will readily be seen from the following diagram:



The intersection point of the two lines representing the compass center.

This method enables vessels to find by repeated observations of the deviation on two adjacent cardinal points the change in B. and C. and consequently the change in the deviation of all courses. N and S bearings are easily obtained by the pole star and E and W bearings by amplitudes extended into azimuths. An easy way to find the deviation for any course is also to place a compass on shore in the direction of the middle line of the ship and compare the course thus obtained with the course the vessel is headed on.

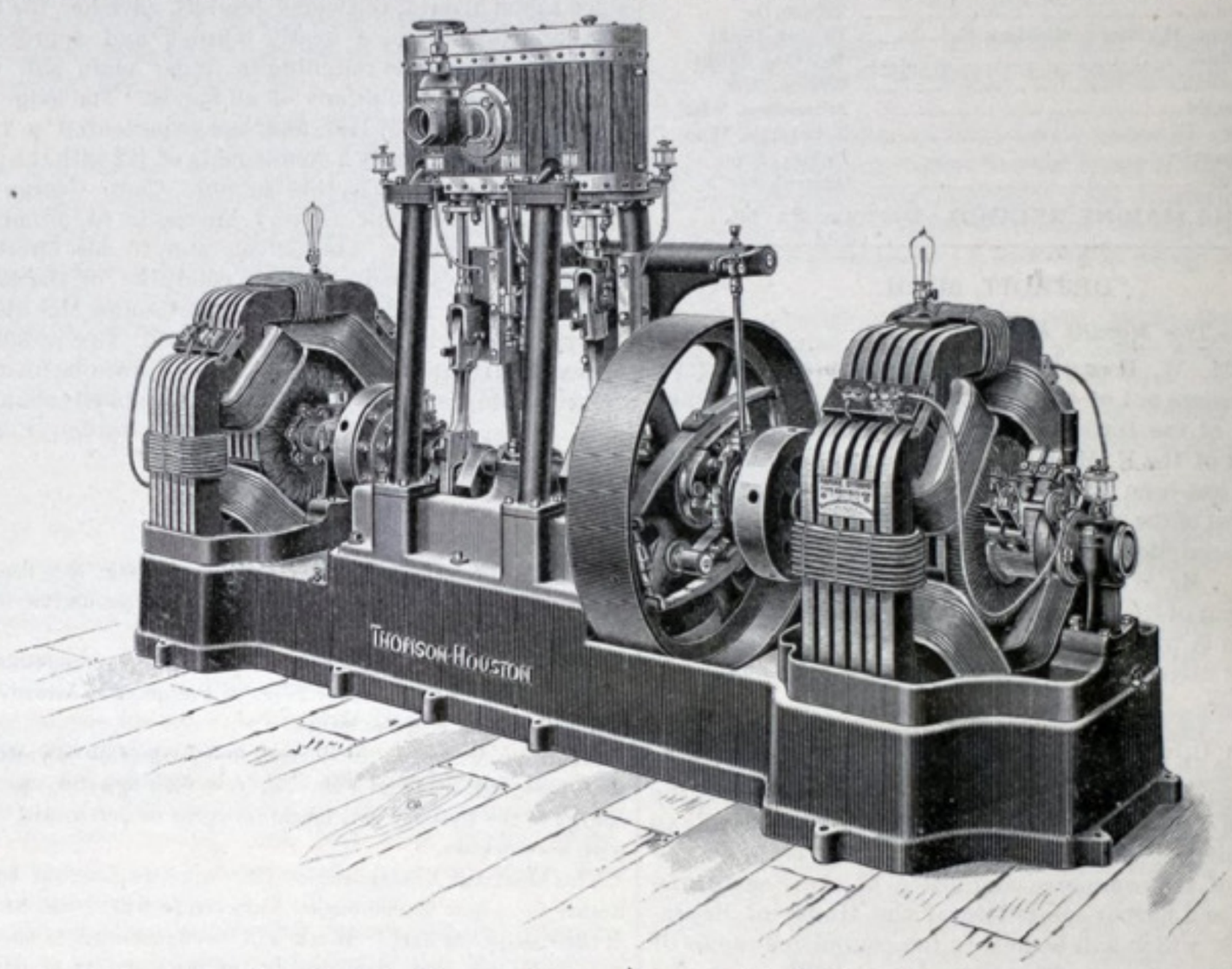
In another article the graphical method for finding the deviation on all courses from the magnetic forces will be explained.

THE United States Treasury Department has issued a circular to United States shipping commissioners looking to a strict enforcement of the laws against the employment of alien officers on vessels of the United States.

MARINE DYNAMO AND ENGINE.

OUR ILLUSTRATION THIS WEEK SHOWS THE marine dynamo coupled to a double vertical engine designed especially for vessel installations according to the strict requirements of the U. S. Navy. The U. S. cruisers Petrel, Vesuvius, Newark, Dolphin and Miantonomah are fitted with this mechanism. The Thomson Houston Co. are the manufacturers of the marine dynamo and engine and it is learned that the best possible satisfaction is gained wherever their installations have been placed aboard ship.

It would have been thought the suggestion of a lunatic but a few years ago. If a vessel-owner had been approached with a recommendation to place an electric light installation on board of his vessel, to the entire exclusion of oil. A gas plant placed in a South American passenger steamer only fifteen years ago was considered a wide departure, even progressive vessel-owners questioning its advantage in point of service and economy, while to-day, the passenger steamer or modern steel freight steamer on the lakes would find it a positive hardship to be without the electric installation, and, as we noted in these columns last week a contract has just been closed to equip a fleet of six large steel freight steamers owned in Cleveland with a complete electric light installation.



Not only are these dynamo's made by the Thomson Houston Co. for lighting purposes on board ship, but we find among their specialties a most compact and powerful electric hoisting engine for deck, wharf or warehouse facilities, also a marine search light made to swing in any direction and of 2,000 to 6,000 c. p.

Those interested in building, managing, owning and sailing modern tonnage should be apprised of all of these advancements in their special line of business as it effects the ledger accounts where antiquated methods and mechanism are kept in use to compete with modern, speedy, reliable and economical substitutes. In a word, those who are not up to the spirit of the times in technical pursuits, mechanical devices, and a trained experience of their class calling, are soon overstepped by others who are, and in so technical a following as the distinct marine industry, a vessel, and what she can do, or what may be done with her, will always remain a paramount question to be successfully dealt with by men of experience and training, while novices may lose money for their owners with equanimity in their efforts to compete with skill and experience.

NOMENCLATURE.

The three new steel freight steamers designed by Manager E. T. Evans, of the Anchor Line, are named as follows: Codorus, Schuylkill and Mahoning. It will be recognized that the nomenclature is derived from Pennsylvania waterways, and are most appropriate for steamer names; they are also distinctive, easy sounding, and relate to geographical certainties, as opposed to the evanescent fame of personality. These boats are being built respectively at the Union Dry Dock Co., Buffalo, N. Y.; The Globe Iron Works Co., Cleveland O., and the Detroit Dry Dock Co., Wyandotte Mich.; they will each carry about 3,000 tons, or 9,000 in all, and their approximate cost will be half a million dollars. It is already widely admitted that they will prove the most economical package freight carriers ever constructed on these waters, and Manager Evans is quoted as closing a first-class contract for a well advanced type of modern steel freight steamers.

A. R. MCKAE wants to handle all lake freight in and out of Chicago. The question is can he do it?

THE FIRST OCEAN STEAMER.

Much has been said and written regarding the priority of steam navigation. A journal of American inventions and industries in treating of the history of steam navigation kindly forwards us advance sheets of the work, a notice of which is contained in another column of this issue and the following extract is made to show the nature of the work and its original scope.

"The first ocean steamship was built at Corlear's Hook, New York, by Crocker & Fickett. She was 380 tons burthen, and was launched August 22, 1818, to run between New York and Liverpool as a sailing packet. About the time she launched, Captain Moses Rogers, then of Savannah, Ga., suggested to Messrs. Danning, Scarborough, Sturges, Burroughs, Henry, McKenna and others, the idea of constructing a steamer to run between Savannah and Liverpool. They accordingly purchased this ship, and named her the Savannah. Her castings were made in New York and her boiler at Elizabeth, N. J. She made her trial voyage to Savannah in April, 1819, and arrived there from New York in seven days. She had to take in her wheels several times and rely on her sails. She sailed from Savannah for Liverpool, May 26, 1819, under the command of Captain Rogers, of New London, Conn. Moses Rogers, his brother-in-law, was master and engineer, and a Mr. Blackman was third officer. In his report of the voyage, Mr. Rogers says: "We made the port of Liverpool in twenty-two days after leaving the port of Savannah; fourteen of the twenty-two under steam. The only reason why the whole voyage was not performed by steam was the fear of the fuel giving out. Off Cape Clear the Admiral at Cork despatched a ship to our relief supposing we were on fire. At Liverpool we caused a great deal of excitement, and suspicions of having some designs to release Napoleon from St. Helena. From Liverpool we proceeded to Copenhagen, and from thence to Stockholm. At both places the Savannah excited great curiosity. At the latter place she was visited by the royal family, our Minister, Mr. Hughes, and Lord Lyndoch. The latter went with us to St. Petersburg. On the passage he desired us to bring the vessel from steam to canvas. He held his watch and noted the time, fifteen minutes. He was so delighted that he exclaimed, 'I blame no man in the United States for being proud of his country; and were I a young man I would go there myself.' The Emperor of Russia came on board at Cronstadt, and was much pleased with the vessel, and presented Captain Rogers with two iron chairs."

THE INSURANCE COMPANY OF NORTH AMERICA, OF PHILADELPHIA.

This company having been founded in 1792 has reached its hundredth year, and its last statement shows it to be enjoying a vigorous old age. Its total assets are $9,278,220, of which $7,351,278.73 are invested in loans on bond and mortgage and in other first class securities. It has a capital of $3,000,000, a surplus over all liabilities of $2,225,475.31, and a reserve for reinsurance of $2,789,587.08. Its income during the year was $5,417.448.67, and its total expenditures were $4,624,559·85. The chief officers of the company are Charles Platt, president; William A. Platt, vice president; Eugene L. Ellison, second vice president; Greville E. Fryer, secretary and treasurer; John H. Atwood, assistant secretary; Catlin & Platt, attorneys and marine managers, Benoni Lockwood, fire manager. George L. McCurdy is manager of the lake marine department, Chicago, Ills.

MAJOR E. H. BUFFNER, Corps of Engineers U. S. A., is now stationed at Buffalo, N. Y.

Notes.

CARNEGIE BROTHERS signed a contract last Thursday for 1,000,000 tons of iron ore. The sum of $3,000,000 is the figure quoted as the contract price for the delivery of the ore to the Bessemer Works at Pittsburg.

THE Secretary of the Treasury has submitted estimates of $175,000 for the construction and equipment of a revenue steamer for lakes Michigan and Superior, and $100,000 for another for Lake Ontario and the St. Lawrence river.

THE Columbian Navigation Co. has been incorporated with a capital of $500,000 for the purpose of running steamboats to Jackson Park during the Exposition, for the accommodation of visitors. It is believed that many thousands of visitors will prefer the lake route in reaching the Exposition.

ELISHA MILLET, shipbuilder, Bath, Me., builder of the Shenandoah and her sister ships, died last Thursday at the age of 78 years. Capt. Millet had built forty-two vessels for one firm alone, and including his life's work had put afloat more tonnage than was contained in the U. S. Navy altogether.

A BILL has been introduced in the Senate by Senator Frye to carry into effect certain recommendations of the United States delegates to the International Marine Conference held in Washington two years ago. The bill contains 201 sections and practically covers all of the recommendations made by the Conference for the protection of life and property at sea and to provide revised regulations regarding the rules of the road, carrying of lights, the examination of officers and inspection of sailing vessels as well as new rules regarding the issuance of officers' licences.

THE chairman of the Deep Water Convention, Hon. Thomas W. Palmer in his remarks at the opening of the Convention said, "There is one thing that I would like to say to the Convention. There is a great deal of loose knowledge about the statistics of the commerce of the lakes. I think it is very essential that that should be exact, so that it cannot be gainsaid on the floors of Congress; so that when you ask for your appropriation and improvements your figures cannot be assailed. I am told that only thirty millions of dollars have ever been expended on the improvements of the lakes and that thirty millions of dollars is only one-third of the saving for a single year. To whom does it go? Certainly not to the vesselmen, but to the people of the United States. It means cheaper comforts of life to every one.

THE first steamboat on Western waters, said the late Mr. J. B. H. Latrobe before the Maryland Historical Society, was the New Orleans, which was built at and started from Pittsburg, Pa., in September, 1811, and reached the city of New Orleans in October of the same year. This boat was built from the designs of Robert Fulton by Nicholas J. Roosevelt, who was associated in this enterprise with Fulton and Chancellor Livingston. The New Orleans was 116 feet long, 20 feet beam, and had an engine with a 34 inch cylinder. The second and third steamboats built for this service were the Vesuvius and the Ætna, and the fourth boat, the Buffalo, was built under the direction of Mr. B. H. Latrobe, Sr., the architect of the first capitol at Washington, who became interested with Fulton and Livingston in the navigation of Western waters about 1813.

THOMAS DREIN & SON, Wilmington, Del., have just received an order from the Globe Iron Works Co. for metallic life boats for the new steamers now under construction at their yards. The Northern Steamship Co. also order six twenty feet metallic life boats for vessels in their Line. This last order is due to the excellent satisfaction which Drein's boats gave when the Northern Line fleet of large steel steamers were fitted out after construction by the Globe Iron Works Co. as the new order calls for an exact duplication of the six boats then furnished. It is learned that the works of Thomas Drein & Son at Wilmington, Del. is now running at its full capacity, with orders booked well ahead, so that builders and owners requiring metallic life boats and life rafts on a spring or early summer order would do well to send in their specifications to the manufactury so that work may be turned out punctually.

ELECTRIC INVENTION FOR THE PRESERVATION OF LIFE AT SEA.

Thomas A. Edison has perfected and patented another wonderful electrical invention. It is one that is intended not only to further the interests of commerce, but to protect human life at sea. It is, in substance, a system by which telegraphic communication can be carried on between ships at sea and shore and between the distant points on land. The most remarkable part of all is that this intercommunication can be maintained absolutely without the use of wires or cables. In his specifications filed at the patent office in Washington, Mr. Edison says: "I have discovered that if sufficient elevation be obtained to overcome the curvature to the earth's surface and reduce to the minimum the earth's absorption, electric telegraphing or signaling between distant points can be carried on by induction without the use of wires connecting such distant points." By this method ships can telegraph to each other at sea, one vessel being able to communicate with another far away and out of sight. If a balloon in New York should be sent up to a great height, equipped with a condenser, and held to the earth by a rope cable, in which there was a strand of wire, and another similarly equipped should be sent up from London, a circuit would be formed through earth and air without the aid of wires for transmission, through which messages could be flashed at a greater speed than has ever been attained by any other system.

GRAIN STEALING, AND THE REASON WHY.

BY OBSERVER.

I think I may truly say that my experience in elevator weighing, and my opportunities for investigating this problem, have been entirely on the ground floor. Throughout my career as elevator accountant, the slack methods, the absolute looseness of permitting weighmen to enter such important figures as the weight of grain, carload after carload, without any check on their work, has always been to me a perfectly reasonable explanation of the big differences between our weights and those of shippers.

I must admit that no importance was attached to these views by the manager of our elevators. The men were regularly cautioned to be careful, and the manager thought that as our men were experienced and were in constant practice, their figures were certainly more trustworthy than those of shippers. Now and then a car number would be transposed or distorted. Such instances I made use of to prove to our easy minded officials that our men were not infallible; that if they transposed car numbers they could reasonably be suspected of transposing weights. But this was met with the excuse that they were, perhaps, not as careful with car numbers as they were with weights, because the car numbers could be easily corrected. When I claimed that the reverse was the case, that they were, in fact, more careful in handling car numbers because their errors could be easily detected, they "rather thought not." We kept on explaining to shippers about the experience of our weighmen, and how we tested all of our scales daily with a full carload of grain. Sometimes copies of our foreman's report to the superintendent of such tests were sent to the shipper or furnished the consignee. But somehow the trifling difference of ten pounds or such a matter between the weight of the carload on five or six different scales failed to soothe the shipper. And so the matter dragged along. * * *

This proves the fact that with close weighing and no mistakes, an elevator may, without loss, handle millions of bushels of grain a year, giving every shipper just and correct weights; also that the element of uncertainty in handling grain without an absolute check on the figures entered by the weighman, is responsible, in a great measure, for the too large surpluses often found in grain elevators at the end of the year, because the weighmen are really responsible for a shortage if one should occur. They have weighed the grain in, and they have weighed it out, and if a shortage occurs at the end of the year they realize as clearly as any one that they are objects of suspicion of either dishonesty or incompetency. Naturally enough then, the tendency is to weigh in favor of the elevator, and as mistakes are sure to occur, there is always this element of uncertainty which acts as a still greater incentive with the weighman to be on the safe side. The result, an unreasonably large surplus.

This state of affairs has become a fixed fact. The experienced elevator employe does not have to figure hard to satisfy himself that he can dispose of enough wheat to help himself out nicely without his little appropriation being missed. That this is true is clearly proven by the late discoveries of systematic grain stealing. These discoveries are in most cases the result of complaints and pressing claims of short shippers and receivers. I have not noticed a single instance, I think, where dishonesty or theft was suspected or detected by reason of a shortage in the elevator stock. * * *

There is no doubt in my mind, therefore, that the true reason why grain stealing has become so common is because of this ever present and undeterminable question of errors. It makes no difference how accurate your scales are, the work of the scales is done when the beams balance with the load. Then comes the adding together and entering of figures, which the weighman must do, and unless this work can be proved, the field for dishonesty becomes simply a big common. Isn't this true? How would it be in the banking business, in our county treasurer's office, in our customs offices, if everybody concerned could charge every other body of having made a mistake, and nobody concerned could fix the mistake on anybody else. Would the business be carried on honestly? Well, is not this exactly the state of affairs where in case of a difference the elevator officers and the shipper affirms, and no one has reasonable proof to show that this matter of recording weights has been correctly done.

What is reasonable proof? Nothing short of a balance of entries. Called and checked proof is not to be relied on. Every clerk will tell you that. One man going over another's work is not reliable. Not long ago we read in the columns of this excellent journal an elaborate explanation of how the weighing is done at Duluth, from which we are led to believe that every draft delivered to a vessel by the elevator weighman is checked and duplicated by the state weighman or inspector. How can a mistake happen with such a system of checks? Let us be duly impressed. The man who does the checking is not an ordinary person, a common tallyman, but a high official—a state inspector. Are we all duly impressed? Then let us read the following from the January number of this same journal: "Duluth wheat cargoes are, on the whole, holding out better than any previous fall on record," writes the Buffalo correspondent of *The Marine Record*. * * * "The America's shortage of a little over 500 bushels was no doubt a mistake of a draft. She had a similar one last fall but got no redress." Now let us observe how our esteemed Buffalo correspondent of *The Marine Record* proposes to fix this matter. He says farther: "This feature of making the vessel responsible for weighmasters, errors (which weighmaster?) is all wrong, and calls for a change in the wording of the bills of lading." It is evident this Buffalo correspondent of *The Marine Record* is a vessel owner. But of this at some other time. The question which arises here is: "Where was the state inspector?" The errors above referred to, if they were made at Duluth, signify that the figures representing 500 bushels of wheat, were charged to the vessel while the wheat was not delivered. This instance only goes to show that nothing in the way of checks short of a perfect system of balances will give us a perfect system of weighing. The sooner this theory is acted upon the sooner this notorious evil will be done away with.—*American Elevator and Grain Trade.*

ERIE CANAL TRANSPORTATION

Notwithstanding the enormous exports of grain, the Erie Canal shipments were 6,000,000 bushels less than in 1890; while the railroads, on the other hand, delivered at New York this year, more than twice as much grain as last year. Various causes combined to produce this effect. Besides the constant discrimination in elevator charges, the canal boatmen were harassed by unwarranted delays in loading.

At the time when receipts at Buffalo by lake ran high, the railroad grain elevators ignored the rights of the boatmen, and put off the loading of canal boats in order to empty the railroad line steamers with all possible dispatch. Low water and breaks in the canal had but little effect in decreasing shipments. To crush canal competition the railways made such low rates that the elevators having rail connection, were swamped with the grain arriving, while at the same time elevators having no rail connection were kept idle, to the loss of both vessel owners and the canal boatmen.

Superintendent Hannan, of the State Department of Public Works, reviews the improvements on and increased expenses of operating the railroads which compete with the canals, and referring to the New York Central road, says: The total cost for maintaining and repairing that road and its equipment, was the enormous sum of $7,418,283,10, a sum equal in amount to that required to maintain and operate the canals for 10 years; this was paid in a single year, and this road is only one of the competitors of the Erie canal. By these liberal expenditures for maintaining their roads in first-class condition and by the improvement heretofore noted, the railways have been able to reduce the cost of carrying freight to one-third of the price which it cost 20 years ago.

The whole number of tons of freight carried upon the canals of this State during the season of navigation was 4,563,472 tons and was composed of the following described class of articles: Product of the forest, 1,206,986; agriculture 1,171,192 manufacturers 109,387; merchandise 250,083, other articles 1,825,824. Of the total amount of freight moved 3,190,331 tons were carried east and 1,373,141 tons were carried west, and of this amount 2,651,838 tons were through freight and 1,911,634 tons were way freight. Comparing the tonnage of 1891 with that of 1890, there is shown to be a loss of 682,630 tons, but during the year of 1890, much ice was transported upon the canal so that the loss this year, as compared with the tonnage of last year, exclusive of the ice is 215,093 tons.

There has been but little profit to the carrying business on the canal during the past season. The prices for carrying cargoes have been so low that boatmen have only been able to subsist. Whatever profit has been derived from the carrying has been made by those of them who operated steam canal boats. Of this class of boats there were 60 engaged upon the canals last season.

RUNNING THE RAPIDS.

A question regarding the steamers that first made the passage through the Rapids of the St. Lawrence River is answered by James Mooney, superintendent of the Brockville & Westport Railway, who takes exception to the statement made in connection with the recent decease of Capt. Richard Chapman, of Ogdensburg, to the effect that that gentleman took the steamer New York down the rapids when she was sold to the American Government. Mr. Mooney states further that the New York was not the first steamer to run the rapids. She was preceded by both the America and the Canada of the same Line, and the man who took them all down was a pilot named Rankin, who, he thinks, belonged to Beauharnois. Capt. Chapman was in command of the New York at the time she made the passage, but did not pilot her through the rapids. These boats, Mr. Mooney informs us, were the finest steamers, both as regards size, speed and equipment, ever established on the St. Lawrence. They belonged originally to the Great Western Railway, and for a time ran between Hamilton and Cape Vincent. They were built at Niagara, and some of them were inspected on the stocks by Mr. Mooney who, at that time, was a chain-bearer on a railway survey being made in that section by Walter Shanley, in war times, probably 1862 or '63, they were sold to the United States Government and Rankin took them down the rapids. A law suit followed the service, Rankin claiming that he was to be paid $5,000 in cash if the trip was made in safety.

THE estimated total production of pig iron in 1891 was 8,196,127, gross tons, against 9,202,703 tons in 1890, a decrease of over 1,000,000 tons.

The Marine Record.

ESTABLISHED 1878.

Published every Thursday, at 144 Superior Street, (Leader Building,) CLEVELAND, O.

IRVING B. SMITH. } - - Proprietors.
CAPT. JOHN SWAINSON. }

BRANCH OFFICE,

CHICAGO, ILLS., - - - 252 South Water St.

THOMAS WILLIAMS, Associate Editor.

SUBSCRIPTION.

One copy, one year, postage paid, - - - - - - $2 00
One copy, one year to foreign countries, - - - - $3 00
Invariably in advance.

ADVERTISING.

Rates given on application.

THE MARINE RECORD can be found for sale by the following agents and news dealers:

AMHERSTBURG, ONT.—George Taylor.
ASHTABULA HARBOR, O.—O. C. Large, O. M. Kohne.
ASHLAND, WIS.—Post Office News Stand.
BUFFALO, N. Y.—Miss McCabe, Elk st.; W. H. Boyd, 60 Main st.
CHICAGO, ILLS.—Thomas Williams, 252 South Water street.
L. P. Ballin, 33 West Randolph street.
CLEVELAND, O.—Cleveland News Co , 118 Wood street; G. F. Bowman, corner Pearl and Detroit street; R. A. Castner, 254 Detroit street E. J. Ray, 452 Detroit street; Larwood & Day, 259 Superior street; N. Hexter, 303 Superior street; Taylor, Austin & Co., 116 Public Square.
DETROIT, MICH.—George Abrams, River Reporter.
DULUTH, MINN.—Albertson & Chamberlain, 323 West Superior st., Zenith News Stand.
DUNNVILLE, ONT.—J. H. Smith.
ERIE, PA.—Reed Caughey, W. J. Sell, Moses Dryfoos.
ESCANABA, MICH.—John Finnegan, Sourwine & Hartnett.
HURON, O.—John Squires.
HOUGHTON, MICH.—F. W. Kroll.
KINGSTON, ONT.—John Henderson & Co.
LORAIN, O.—C. C. Knapp, J. B. Tunte.
LUDINGTON, MICH.—Fisk & Co.
MANISTIQUE, MICH.—W. S. Gilbert, Post Office Block.
MARQUETTE, MICH.—Vannier & Bigelow.
MILWAUKEE, WIS.—T. S. Gray Co., 126 Wisconsin street.
OWEN SOUND, ONT.—H. P. Adair & Co., J. Sharpe, Jr.
PORT HURON, MICH.—D. E. Lynn, Marine Reporter.
SARNIA, ONT.—J. G. McCrae, D. McMaster.
SAULT STE. MARIE, MICH.—J. P. Haller, Water street.

☞ Subscribers and others are respectfully invited to use the columns of THE MARINE RECORD for the discussion of pertinent topics and all matters relating to the welfare of the Lake Marine. N. B.—We do not hold ourselves responsible in any way for the views expressed by our correspondents. Contributions must in every case be accompanied by the full name and address of the writer, and be at this office not later than Wednesday morning.

Entered at the Post Office at Cleveland as second class mail matter.

ALL MAIL MATTER

Pertaining to the Editorial and Business Departments of THE MARINE RECORD should be addressed,

"SMITH & SWAINSON,
148 SUPERIOR ST.,
CLEVELAND, OHIO."

CLEVELAND, O., JANUARY 24, 1892.

A REVELATION IN LIGHTS.

ACCORDING to Rule 7, *Extracts from Revised Statutes* all lake steamers are to carry a central range of two white lights, the forward light at the foremost head showing over an arc of the horizon of twenty points of the compass, being ten points on each side of the bow as now universally in use, and in addition thereto an after bright light to be carried at an elevation of fifteen feet above the forward light, and showing all round the horizon. Such is the wording of Rule 7, which is now to be strictly enforced on all lake steamers, according to instructions from Washington.

This clause will, no doubt, be a revelation to even the most experienced lake masters and owners, for, we must candidly admit that the Rule has been honored more in the breach than in the observance thereof. From what sinister source the prompting of a revisal of the clause has been heralded we know not, suffice it to say that the Rule bears all the force of law which the beneficient portion of the Rules bear, and, as a Revised Statute, is considered eminently worthy of being strictly enforced.

Vessel owners and masters would be justified in taking such steps during the present Congress as would be found necessary to have this Rule 7 suspended or rescinded for the season of 1892, as otherwise confusion may reign supreme, even after being put to a great expense in fitting a spar to carry the after light. We further call the attention of the entire lake marine to the fact that quite a number of steamers now carry but one spar, and this presumably only to accommodate their masthead light, while those with short pole spars might possibly get the after range light fifteen feet above the light at the foremast head, though it would be near the truck in many cases. Others would be obliged to fid their main topmasts again and rig up the hoistihg arrangement for gettirg the "sky wonder" aloft there.

This is a subject which the practical navigator will hardly find patience enough to discuss, and but encourages a supreme indifference, not to say disgust, for the Rules so ignorantly framed. Those who advocated, adopted, and are placed in a position to enforce the Rule ought to have something to say in its favor, and we would like to hear from them one half rational reason in behalf of its continuance. The law went into effect January 1st., 1872, amended 1875, '81-82, and no doubt should have been strictly enforced. Yet, reasons for not enforcing it are as plentiful as blackberries in the summer time, which the framers of such a code ought to perhaps have been gathering instead of sitting owl-like forming laws to guide the lake marine which are ridiculous in their inception, and horrible to contemplate in their carrying out.

BOTTLE PAPERS.

IT is highly gratifying to learn that the Weather Bureau, Department of Agriculture, have about determined to learn something of the physical geography of the Great Lakes.

Hitherto, the most dense ignorance has prevailed regarding the characteristics of the several lakes. No observations of any movement have ever been taken, and no official or reliable *data* is at hand after a half century of navigation, if we except, within the shore line of the several districts ruled over by the officers of the Engineer Corps, U. S. A.

A short time ago Mark W. Harrington, chief of the Weather Bureau, turned his attention to this lack of geographical knowledge as affecting the department of which he is the principal, and as soon as the facts were made known, he appreciated the situation and set about to ascertain the best means of obtaining reliable *data* of the entire lake area. The first step was to determine a positive system of gathering information with the aid of voluntary observers working in direct connection with the Weather Bureau and suited for special lake requirements. To this end, an officer who had charge of similar work in New York previous to the service being turned over to the Navy Department, was appointed to locate in Cleveland, O. Small charts of each lake, divided into numbered squares was thendrawn up and a form ruled out to record desirable observations, a letter of intructions was printed asking for the voluntary assistance of all lake masters in filling out these blanks during the season of navigation a franked envelope accompanying each form, so that when filled out it might be mailed to Washington for compilation. All this work was being done ready for the opening of navigation, 1892.

Whether through the wide spread agitation on the matter of lake levels, the endorsement of a twenty-one foot channel over the lakes, the several stupendous canal schemes now being ventilated and for which bills are before the present Congress, or for the general reasons of learning the surface action of these large bodies of water, we are not in a position to say, but, we do know that steps are being taken to ascertain the set and drift of currents over the area of each lake, and to this end a large number of specially constructed bottles are being made, so that lake masters and pilots may fill out a blank, drop the bottles overboard in the recorded squares, and the finder will send the enclosed form in a franked envelope to Washington to be there compiled.

Bottles papers to ascertain the set and drift of surface currents are not unknown, though their introduction was probably first brought about through the many silent messages from the sea, which shipwrecked mariners, in their last extremity, have thrown overboard as a tell tale. The hydrographic office, navy department, has now in use a system of bottle papers for ocean work, and it is a matter of congratulation that the Weather Bureau, in the absence of the Navy Department, has taken so earnest an interest in a similar work upon the lakes. The bottles, will no doubt be of a distinctive character, and float well submerged, so that the surface action of light summer winds will affect but slightly their drift, and while no person will be expected to stop in mid-lake to pick up these messengers, as, if they did it would render the observation futile unless thrown overboard again. Yet, wherever picked up, near the shore or when stranded on the beach, no time should be lost by the finder in forwarding the message according to the instructions printed on the form contained in the bottle, as the date of its being picked up will form an important factor in the compilation of the current *data* of the Great Lakes.

As a permanent method of obtaining annual *data*, and becoming apprised of any marked changes in the action of lake surfaces, in so far as their set and drift was concerned, we would advocate the retention of these bottles by the signal service officer, within whose district the bottles are found. It would then require but a few extra bottles each year to keep up the steady supply; this method, in lieu of breaking the bottle to secure the message, would, we think, be preferable, as it would tend to a wider distribution, and always provide a supply of bottle papers at each port or district, now covered by the Weather Bureau, Department of Agriculture.

With the advent of the bottle system it may be determined why vessels find themselves stranding on the south shore of Lake Superior in foggy weather, and also at other points, for there is no greater danger to the ordinary mariner than an unknown current setting him out of his course in thick foggy weather, and for obvious reasons this is a more especial feature in lake navigation than occurs over any other waters in the world, therefore all information relating to the lakes, their winds, weather and currents, which the government can, or may obtain through its various bureaux is of the utmost importance to lake mariners, and with the initiation of the excellent system about to be inaugurated, it will not be but only a few seasons before wind and current charts may be published for the Great Lakes, and their characters fully portrayed.

THAT ANCIENT TREATY.

The 1817 treaty, of which so much has been said recently in its detrimental effect upon Lake shipbuilders, reads as follows: The naval force to be maintained upon the American lakes, by his Majesty, and the Government of the United States, shall henceforth be confined to the following vessels on each side; that is:

On Lake Ontario, to one vessel not exceeding 100 tons burthen, and armed with one 18-pound cannon, on the upper lakes, to two vessels, not exceeding like burthen each, and armed with like force on the waters of Lake Champlain to one vessel not exceeding like burthen and armed with like force. All other armed vessels on these lakes shall be forthwith dismantled, and no other vessels of war shall be there built or armed.

If either party should hereafter be desirous of annuling this stipulation, and should give notice to that effect to the other party, it shall cease to be binding after the expiration of six months from the date of such notice. The naval force so to be limited shall be restricted to such services as will in no respect interfere with the proper duties of the armed vessels of the other party.

One year later a proclamation by the President put the "arrangement" in force, so far as this country was concerned, and similar public notice was given by England.

IRON ORE CHARTERS.

There is a little chartering being done daily and the total placed now aggregates about a million and a half tons, according to the careful estimate of a vesselman who is watching the market closely. Escanaba charters held off until this week when $1 was accepted for an opening rate, Ashland and Two Harbors is quoted at $1.25 and the bulk of the tonnage now chartered has been placed at that figure. There is no inquiry for Marquette but the present rate would rule at $1.15. Vesselmen in Cleveland are in no hurry to charter at these rates, as it is thought that the season will open strong and better rates will obtain for wild boats, in any case the present rate may be easily obtained and consequently there is no need to charter, although one large firm have placed tonnage very liberally at these figures.

The iron ore companies now operating their own tonnage take away the gist of the excitement in opening rates and this feature is becoming more prevalent each year, large blocks of ore are now taken care of without even being placed on, or in any way affecting the freight market.

With the large amount of ore already sold and the rush to get grain down in the spring a lively opening is looked for and good rates will no doubt be paid for the opening months, at least. The outlook for the whole season is said to be fairly good for vessel owners and much is expected from 1892, notwithstanding the large quantity of new tonnage now being built to enter into this seasons business.

AN article in another column of this issue under the caption of "Grain Stealing and the Reason Why," throws a modicum of light on the grain elevator system of weighing, tallying and checking grain at the ports of shipment. THE MARINE RECORD is taken somewhat to task for not mentioning the names of the individuals who weigh the grain. With weighers' names we are not concerned, it is on the system which permits of filching to so large an extent that we take issue, if a vessel is short of her cargo and does not turn out the quantity she receives, there is an open accusation of barratry, unjustly founded, but none the less an accusation, let the merchandise be what it may. It is to this charge against the master and crew that we take exceptions, and ask for a revisal of the present cut-throat bill of lading.

Capt. Thomas Teed died at Racine, Wis., last week. He was well-known along the lakes having had charge of many vessels during his career.

PERSONAL.

Capt. Alexander McDougall and Mr. Mather left for Superior in company on Wednesday night.

Capt. Watts has been spending the week in Cleveland, he left for Detroit on Wednesday night in answer to a telegram desiring him to return at once.

Capt. Johnson, of the Hand & Johnson Tug Line, and Mr. Beattie, of Buffalo, N. Y., spent Wednesday afternoon in the city, leaving again in the evening for Toledo.

Hon. James Ash, of Buffalo spent Wednesday in the city visiting vesselmen, we were pleased to meet one of our staunchest friends and supporters and to find him looking in such perfect health, energetic and as full of business as of yore.

Capt. Henry, manager of the Lehigh Valley Line, and Capt. Kalleran, commodore of the Line, visited Cleveland on Wednesday and inspected the bottom damage on the steel steamer Cayuga, both gentlemen are looking and feeling first-class, the common enemy "la grippe" being carefully avoided.

Mr. F. H. Pell, representing the American Ship Windlass Co., Providence, R. I., favored us with a call Wednesday. Mr. Pell has covered the western country during the past three weeks and is now on his way East, spending Thursday in Buffalo. We were pleased to learn that his company had secured orders for the windlasses on nearly all the new tonnage now under construction on the lakes, and on his arrival in Providence on Saturday next an extra turn will probably be given to the hurry-up end of the large works so that all contracts may be got out punctually on time.

A SYLLOGISM.

The Local Inspectors of the several lake districts have been duly warned to enforce Rule 7 of the pilot rules for lakes and seaboard, hitherto held in abeyance. Before quoting the rule we desire to verify our caption by saying that we question the use of the rule, its applicability, and *per se*, its conclusive enforcement is derogatory to the best interests of the service which it was ignorantly formed to facilitate.

The rule reads as follows: All coasting steam-vessels, and steam-vessels other than ferry boats and vessels otherwise expressly provided for, navigating the bays, lakes, rivers, or other inland waters of the United States, except those mentioned in Rule 6 , shall carry the red and green lights, as prescribed for ocean-going steamers; and, in addition thereto, a central range of two white lights; the after light being carried at an elevation of at least fifteen feet above the light at the head of the vessel. The head-light shall be so constructed as to show a good light through twenty points of the compass, namely: From right ahead to two points abaft the beam on either side of the vessel; and the after light so as to show all around the horizon. The light for ferry-boats shall be regulated by such rules as the Board of Supervising Inspectors of Steam-Vessels shall prescribe.

Vessel-owners, masters and pilots should clearly understand that the foregoing rule is ordered to be strictly carried out and local inspectors are specially charged to see that the steamers are fitted out in such a manner as to enable them to comply with the requirements of the law.

A PLEASANT SURPRISE.

The stockholders of the Lorain Steamship Co., arranged a surprise party in honor of the managing owner of their floating property, Mr. David Wallace, on his sixtieth birthday, January 23rd. Owing to the sickness of Mr. Orville Root, president of the company, Rev. F. P. Sanders, pastor of the First Congregational Church, in a few brief remarks in behalf of the stockholders of the Lorain Steamship Co., presented him with a beautiful and costly gold watch, chain and charm. Mr. Wallace, although very much surprised, replied in an appropriate speech, thanking his friends for the beautiful token of their friendship, and it was then found that Mrs. Wallace had provided "a shot in the locker".

THE BOSTON MARINE INSURANCE COMPANY.

This company has issued its statement for December 31st, also an account current for the year. It has a paid-in capital of $1,000,000. The amount insured covered $69,436,413 and premiums received $1,282,068. The income was $1,328 023.85, and deducting losses and contingent expenses of $1,157,293.11, an increased surplus was left of $170,730.74. Losses paid since organization have been $13,465,160.90. Ransom B. Fuller is president, Herbert Fuller, vice-president; Charles A. Fuller, second vice-president; Thomas H. Lord, secretary; Ward Williams, assistant secretary. It has offices in Boston, New York and Baltimore.

Rieboldt, Wolter & Co., Sheboygan, Wis., will build a new tug this winter for Henry Van Ells & Co., of Milwaukee. She will be 65 feet over all, with 14 ft. beam and 6½ foot hold. Her engine will have a cylinder 14 inches in diameter, with a 16 inch stroke, and the boiler 5ft. 6 inches by 10 ft., allowed 130 pounds of steam. They will also build three 200 yard dump scows, one for the Racine Dredge Co., and two for a Chicago Dredge Co. Work on the new steam barge is progressing nicely. The ceiling is all on, and the steel girders are now being bolted.

Correspondence.

☞ We do not hold ourselves responsible in any way for the views or opinions expressed by our correspondents. It is our desire that all sides of any question affecting the interests or welfare of the lake marine should be fairly represented in THE MARINE RECORD.

A FEW REMARKS.

ASHTABULA, January 26, 1892.

To the Editor of The Marine Record.

I am pleased to read the valuable technical articles contributed to your columns and note that wide experience and knowledge comes boldly to the front with the good intentions of assisting readers to a knowledge of so much of the science of navigation as may be applied on the lakes, and to clear up the cloud of uncertainity which hangs over certain every-day problems.

Several very intelligent thinkers has replied to our practical friend Capt. Pearsons, yet I am sorry to say that the problem still remains unanswered, at least, it is not fully explained to my satisfaction. One correspondent "Novice" makes an enquiry, to his question I would say that a vessel in steering to the westward from Buffalo is constantly decreasing the variation and the tendency is to carry the ship to the north, secondly in steering to the eastward from Toledo the variation is constantly increasing which also has a tendency to carry the ship to the northward of her course. Now to demonstrate Capt. Pearsons problem as I understand it, I will for instance suppose a ship to be placed due east of Toledo, that is on the same parallel of latitude and in the longitude of Buffalo. Now at Buffalo the variation is 5° W. and at Toledo 0°. On leaving the meridian of Buffalo to make a due west course it would be necessary to make a correction for the variation of 5° W., now if the ship continues to steer that course until she passes the meridian of Toledo she would then pass some eight miles to the north of Toledo so that the tendency of the variation is constantly to carry the ship to the northward steering either to the westward or eastward as shown clearly in the foregoing. I think that the question which "Novice" propounds is well taken. There is one more question deserving of the consideration of your readers, and that is how to find the deviation of the compass and apply it correctly. I have read much on the subject in the columns of THE MARINE RECORD, but I do not remember one problem being solved in a manner to be understood clearly by the large bulk or majority of your readers, so I quote an example: Being on Lake Superior October 11th, 1891, in the afternoon when the correct altitude of the sun's lower limb was 4° 50′, latitude 47° 01′ N. sun's correct declination 7° 09′ S. at what point of the compass did the sun bear at that time. This question I would like to see answered in your columns as there has recently been so much said on the subject of deviation and how to apply it, I may state further that the answer should be reckoned from the north. BEGINNER.

REMINISCENCES.

BY CAPTAIN CHARLES GALE.

It has been stated and widely published that more lives were lost on the lakes during the past season than at any time since the lakes have been navigated, but I beg to differ with that statement.

In looking back over my log I find that in 1854, 8 steamers, 6 propellers, 3 barques, 8 brigs and 30 schooners, making a total list of disasters of 384, though some were light, still the cash loss amounted to $2,225,000 and the loss of life reached the long figures of 119 persons. In 1852, 296 persons lost their lives on the lakes and 81 in 1853.

The loss of property for the three years 1852-3-4 was as follows $992,659, $894,143 and $2,125,000 making a total in three years of $3,091,882, somewhat alarming figures for nearly forty years ago are they not. Again, to carry out the well authenticated record a little further I find that in 1855 there was a total of 600 disasters causing a loss of $2,821,592 with a loss of 118 persons, the money valuation of losses for 1856 reached the snug sum of $3,038,875. According to published reports there occurred on the lakes in the season of 1857, 400 casualties to sailing craft, involving the loss of 221 lives and $1,902,000 worth of property and the decennial list of losses up to that date aggregated $13,821,253 so that we were not running "Scot free" even in those days of pioneer work.

I further desire to state that there was no MARINE RECORD in those days to publish a list of losses, to show the world, our world at least, the volume of lake tonnage, or tell of the winter moorings the same as you do now, wonderful strides have indeed been made and looking back over half a century I keenly appreciate the changes, especially when I look across my farm to the St. Clair River and see the continual stream of 3,000 ton iron and steel steamers chasing along at a 12 mile gait all through the season of navigation.

There were but few collisions in the old days and I think that perhaps there was a much better lookout kept then, also that vessel men exercised a trifle more caution in meeting and passing other craft.

Among the last season's losses I was sorry to see the last of the schooners Frank Perew and David Steward they were like old acquaintances to me as I had the pleasure of drafting the standing rigging and sails of both vessels and fitted them out in a well found liberal manner. I was master of the Perew from 1867 till 1873, when I got warning to leave, in this way. On October 18th 1873 we beat out of Escanaba, (I may mention that the Frank Perew was never passed by a sailing craft during my time in her, also a note that may prick up the ears of my younger readers, and that is, the Perew loaded ore from Escanaba to Erie at $5.50 per ton, how is that for your dollar rate of to-day,) with a light easterly wind, before midnight she was reefed down and had all she could stagger under, with a nasty sea running and heavy snow we could not see our own length and wallowed at it with the decks full of water until she began to make water freely. It soon became a question of pump harder or sink, as the water gained on her quite lively and the northwester had scoffed our mainsail and mizen, at 5 a. m. South Fox light was sighted and an anchor was got down in four fathoms, where she soon became what you head a column of THE MARINE RECORD with, flotsam, jetsam and lagan all in one, as when the anchor was let go the water was some inches deep on the cabin floor, we barely got into the yawl boat when she found the bottom, it was still dark and we found ourselves in the surf, boat filled with water and in imminent danger of swamping and all hands nearly frozen.

The terrors dread of that merciless gale
Will depart from my memory never
And those now living to relate the tale
But dwell in our bosoms forever.

It was a loud and close call, yet the Perew was a good vessel and during her first season beat the record by making the trip from Chicago to Buffalo in 3 days 12 hours and 32 minutes, sailed through the Rivers and never lowered her canvas between the two ports. Captain Frank Perew telegraphed to Chicago for the time of her leaving as he could not believe it was possible to cover the ground in so short a time. She was then owned by R. H. Harman, T. P. Handy and John Martin having an insurance valuation of $36,000, after she was abandoned Captain Wilson bought her and she earned many a good dollar since that time.

USE THE MEAN VARIATION.

DULUTH, MINN., January 25, 1892.

To the Editor of The Marine Record.

Mr. "Novice" of Buffalo, in your issue of January 14, thinks that my statement that the change of variation from Buffalo to Toledo diverts ship to the right, or to the north of her chart course, is "misleading",—that he cannot "agree" with me in that statement.

Now it does not matter whether "Novice" agrees with me or not in that statement, the fact remains the same, confronting us for consideration in shaping course.

His trouble comes from the fact that he has not yet discerned the difference between the "change" of variation, and variation proper.

Variation alone, without correction, or without "change" would lead us to the south of Toledo 5°. But in that run, the card swings to the right 5°, diverting ship to the right, or north of her nominal course 2½°, thus reducing our error of 5° to the south, to 2½°, *i. e.* the change of variation has diverted ship to the north, or perhaps it would be better to say, the effect of the "change" of variation is to divert ship to the north.

As our critic appears to be in an inquiring mood, it affords us pleasure to offer any light we can in the matter, to the end that he may apprehend the difference between variation and change of variation.

In the example before us, we see that without the change of variation, we would have been diverted 5° to the south of our objective point; but by the change, which has diverted us to the north, we are left and only 2½° in error to the south. Observe too that our run, or traverse, is towards the agonic line, *i. e.* the line where the magnetic card corresponds with the chart.

Again, from Grand Haven, variation 1½°, to Milwaukee, 4°, both E. *i. e.* the card being to the right of the chart, the change is 2½° to right, increasing the variation to 4° E. Observe too, that in this run, we go from the agonic line.

But, we have seen that the change of variation diverts ship to the north, whichever way we go. Also that this change diminishes variation when going toward the agonic line, and increases it when sailing from that line.

Thus are these two elements shown to be different factors, change of variation always taking us to the north, while variation proper takes us to the north when going from the agonic line, but to the south when going towards that line.

The understanding our friend has of the application of variation is correct. His confusion, as before stated, arising from confounding the change of variation with that element. But he must use the mean variation.

The lakes are probably the only place in the world where the mean variation of two places between which it is desired to sail, must be taken into consideration at each end of the route.

This being done, the effect of the change on the course to be taken is diminished. We will try to consider the observations of "Observer" in our next letter, H. C. PEARSONS.

The assistant secretary of the treasury has made the following appointments for light keepers: Joseph Fontaine, keeper of the light-station at Seul Choix point; Thomas R. Kitchen, keeper of the light-station at South Manitou, and Nelson Kundsen, keeper of the Beacon island light station.

Literary Notices.

Register of iron and steel vessels for 1892, together with the rules of "The United States Standard Stesmship Owners', Builders and Underwriters' Association Limited, for the construction and classification of iron, steel, and composite vessels, published by the said association, has been received this week. The Register was established in 1889, and contains most complete tables for the construction of modern iron, steel and composite steamers, sailing vessels, tug boats, and yachts for lake and ocean service. The register for 1892, contains elaborate and minute illustrations of all portions of the hull construction, built under the rules of the association, and besides containing a lake classification of some of the best steamers, prints a number of letters from prominent lake and coast shipbuilders, endorsing the specifications laid down for the several types of construction in their several departures for special trades, and work on which they are to be engaged. Owners of metal vessels would do well to consult the plates contained in this work, and the particular specifications advocated before placing their orders for new tonnage.

The Record of American and Foreign Shipping for 1892, compiled and published by the American Shipmasters' Association, New York, has been received at this office through the hands of Mr. Joseph R. Oldham, agent and surveyor for the Record on the lakes, and for which we desire the Publishers to accept our thanks. The volume is greatly enhanced in our sight, owing to a large number of the finest lake built iron and steel steamers being classified, and while the main features of the work are similar to previous volumes, we can not but express our admiration of the fine typographical appearance, and the evident skill, care and attention which the compilers have taken to hold the Record in advance of all vessel classification works published in the United States. The Record was established in 1867, and being endorsed by the U. S. Navy Department, Bureau of Construction and Repair, gives its code of laws for building and classification, a national standing in relation to marine architecture. The approval of the Board of Underwriters in the principal cities of the country, amply proves its value to the commercial world desiring to consult a standard American classification of vessels and to whom it must prove invaluable in the everyday transaction of their business. The Record is universally known and under its classification, insurance may be placed in any port of the world, While it would seem to us that each year but increased its patronage, usefulness and reliability, we are pleased to see lake steamers included, and hope that this feature of the work may be followed each succeeding year by the compilers of the "Record of Foreign and American Shipping."

The Jos. Dixon Crucible Co., of Jersey City, N. J., have just issued an illustrated catalogue of their graphite productions, which we believe are now well known throughout the United States, although we candidly admit that the universal use of graphite for so many purposes as the catalogue discloses was rather beyond our ken. While willing to admit that Dixon's Black Lead had much to do with the success of the Puritan in defeating the English yacht Genesta, we were not aware that it made the best of axle grease. Again, we would push along on paper no other, but the Dixon American Graphite Pencil, and yet we were perfectly ignorant of its being the best dressing for steel wire rope yet devised. From this catalogue we learn also that when ordering pencils from Dixons, or procuring their make, we want, for softer than ordinary marking, S.; for ordinary pad paper S. M.; for memorandum books M. B., or M.; for ledger footings M. H., or H.. for finest lines in draughtsmen's or architects' work, V. H., or V. V. H.; and with this list aboard, feel that we are equipped for anything that may come before us.

Patterson's Illustrated Nautical Dictionary is just to hand for review. The work is fully up to the standard which was to be expected from its eminently technical author, and mariners can fully appreciate the immense amount of mental labor required to get up such an epitome of nautical terms. The dictionary, properly so called in its treatment of the nautical vocabulary, contains five parts under the same cover, and each part is a comprehensive digest of the matters on which it treats. Steam engineering, including the several types of marine engines, war ships, and the nomenclature of modern ordnance. Navigation and nautical astronomy are subjects forming interesting chapters of the work, while the dictionary of general sea terms, and the different parts of construction of wooden and iron ship building are exhaustively dealt with, the author, aptly illustrates wherever an illustration would seem to make the subject clearer to the un-technical mind. The work is essentially, a book of reference for all those whose inclination or business leads them into contact with maritime affairs, and it is possible that admiralty lawyers would speak more precisely and examine their witnesses more intelligenaly after a close perusal of Patterson's Dictionary. The volume, however, is inclusive, and technically valuable, and to those who are desirous of adding to their knowledge of nautical parlance, we should say, get it, read, mark, learn, and diligently digest the compilation of facts contained within its covers, and keep it close aboard for reference as you would a Gunter, Hoyle or Webster.

MARINE AND INLAND INSURANCE.

Atlantic Mutual Insurance Company,

(ORGANIZED 1842.)

Office, 51 Wall Street, NEW YORK.

INSURES AGAINST MARINE AND INLAND TRANSPORTATION RISKS AND WILL ISSUE POLICIES MAKING LOSS PAYABLE IN ENGLAND.

Assets over $10,000,000.00, for the Security of its Policies.

The profits of the Company revert to the assured, and are divided annually upon the premiums terminated during the year; thereby reducing the cost of insurance. For such dividends, certificates are issued bearing interest until ordered to be redeemed, in accordance with the charter.

J. D. JONES, Prest. W. H. H. MOORE, Vice-Prest. A. A. RAVEN, 2nd Vice-Prest. J. H. CHAPMAN, Secy.

Insurance Company of North America.

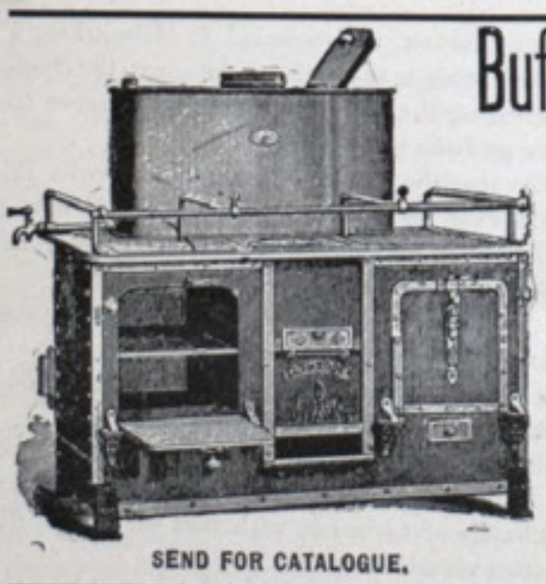
INCORPORATED 1794.

CAPITAL, PAID UP IN CASH, - $3,000,000.00
ASSETS. - - - - - $8,951,518.83

CHARLES PLATT, President. WILLIAM A. PLATT, Vice-President.
EUGENE L. ELLISON, 2nd Vice-President. GREVILLE E. FRYER, Sec'y & Treas.
JOHN H. ATWOOD, Assistant Secretary.

LAKE MARINE DEPARTMENT.

GEORGE L. McCURDY, MANAGER. CHICAGO, ILLS



SEND FOR CATALOGUE.

Buffalo Wrought Steel Ranges

Steamboat and Vessel Ranges and Broilers, with patent Rotary Grate.

SOMETHING NEW AND GOOD.

We also carry the STAMFORD TUG AND YACHT GALLEY STOVES.

RUSSELL & WATSON

Successors to FELTHOUSEN & RUSSELL.

139-141 Main St., BUFFALO, N. Y.

H. B. & G. B. BURGER,

SHIP-BUILDERS & CONTRACTORS.

MANITOWOC DRY DOCK.

Dry Dock will admit Vessels of 1100 tons drawing 12 feet. Have also a set of Boxes in connection with the Shipyard capable of lifting Vessels of 350 tons. A large stock of SPARS constantly on hand. LARGE SPAR DERRICK.

Vessels Docked and Repaired on Reasonable Terms.

MANITOWOC, WIS.

INLAND MARINE INSURANCE.

UNION MARINE INSURANCE CO.,

(LIMITED.)

OF LIVERPOOL, ENGLAND.

TRANSATLANTIC MARINE INSURANCE CO., . . . OF BERLIN
GENERAL INSURANCE CO., ... OF DRESDEN
SAXONY INSURANCE CO., ... OF SAXONY

AGGREGATE CAPITAL OVER $6,500,000.

The above Companies will do a General Hull and Cargo Business on the Great Lakes.

CHICAGO OFFICE: 6 SHERMAN STREET.

P. H. FLEMING, GENERAL MANAGER.

SAMUEL F. HODGE & COMPANY,

MANUFACTURERS OF

MARINE

Stationary and Portable Engines,

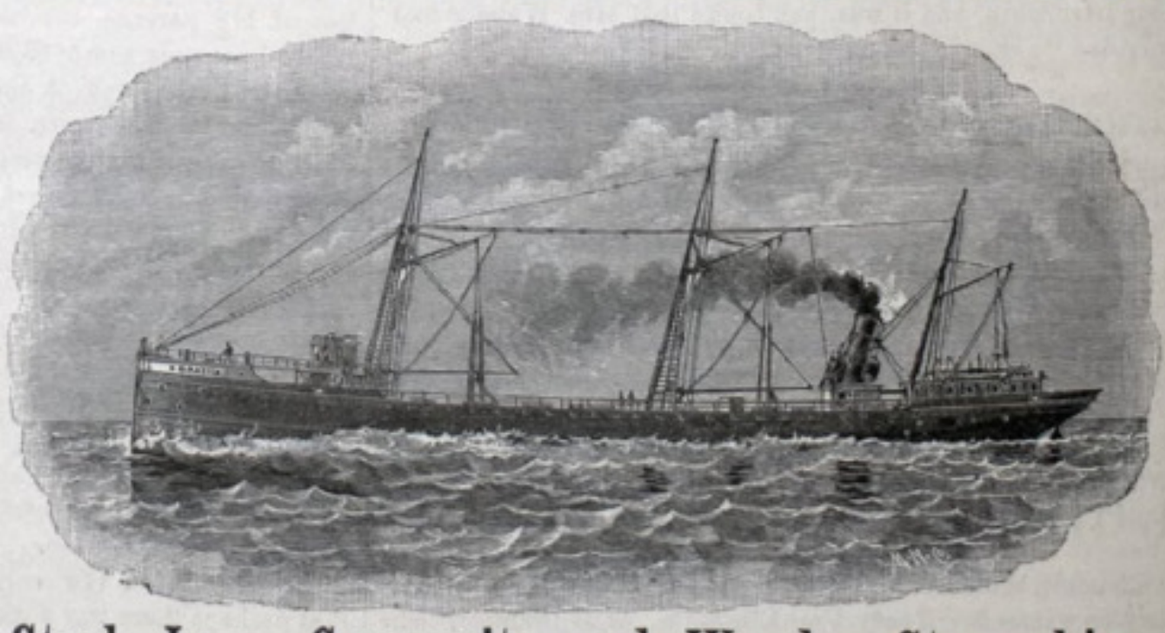
MINING MACHINERY AND

PROPELLER WHEELS,

Riverside Iron Works, 314 to 326 Atwater Street,

DETROIT, MICH.

THE UNION DRY DOCK CO.



Steel, Iron, Composite and Wooden Steamships

OF EVERY DESCRIPTION

BUILT, DOCKED AND REPAIRED.

BUILDERS OF

JEWETT. TIOGA. SUSQUEHANNA. CHEMUNG. BRAZIL. FESSENDEN. AMERICA. COMMODORE PERRY. OWEGO. S. C. REYNOLDS. VIKING. S. C. SCHENCK. "PIER." FRANK W.

BUFFALO, N. Y.